What Is Claimed Is:

1. A probe card assembly comprising a programmable controller to control the provision of test signals to test probes of the probe card for testing components on a wafer.

2. A probe card assembly of claim 1, wherein the programmable controller comprises a Field Programmable Gate Array (FPGA).

3. The probe card assembly of claim 1, wherein the programmable controller is connected through an interface to a test system controller, where the test system controller provides test signals to the interface to control testing of components on a wafer.

4. The probe card assembly of claim 3, wherein the interface comprises one or more of a group consisting of a serial, parallel, wireless, network, RF and IR interface.

5. The probe card assembly of claim 1, further comprising a memory accessible by the programmable controller, wherein the memory stores a test program enabling the programmable controller to perform testing of components on the wafer.

6. The probe card assembly of claim 1, wherein the programmable controller comprises a serial to parallel converter configured to receive the test signals, the programmable controller configured to convert the test signals from serial to parallel and distribute the test signals in parallel to the test probes.

7. The probe card assembly of claim 1, wherein programmable controller is configured to perform self testing of components included in the probe card assembly.

8. A probe card assembly of claim 1 further comprising:

a serial to parallel converter connected to receive signals from the programmable controller, the serial to parallel converter being configured to convert the test signals from serial to parallel and distribute the test signals in parallel to the test probes.

9. A probe card assembly of claim 1 further comprising:

a serial digital to analog converter connected to receive digital test signals from the programmable controller, the digital to analog converter configured to convert and provide the test signals to the test probes in analog form.

10. A probe card assembly of claim 1 further comprising:

a daughter card connected to a base PCB, the base PCB including the programmable controller and connectors for connecting to a test system controller and routing lines from the connectors to contacts providing electrical connections to the test probes for contacting DUTs on a wafer, the daughter card supporting discrete components configured for providing additional signals to the DUTs.

11. The probe card assembly of claim 10, wherein the discrete components comprise an additional programmable controller.

12. The probe card assembly of claim 10, wherein the daughter card further comprises:

power supply isolation devices connected in series with multiple power supply lines that distribute power from a single power supply line of a test system controller to multiple test probes, each test probe configured to contact a DUT power supply input, wherein the power supply isolation devices are configured to minimize current flow on a given one of the power supply lines when a DUT on the given line is determined to be faulty.

13. The probe card assembly of claim 10, wherein the components on the wafer include microprocessors, and wherein the discrete components comprise support circuits for a personal computer motherboard.

14. A probe card assembly of claim 1 further comprising:

a daughter card connected to a base PCB, the base PCB including connectors for connecting to a test system controller and routing lines from the connectors to contacts providing electrical connections to the test probes for contacting DUTs on a wafer, the daughter card supporting the programmable controller.

15. A probe card assembly of claim 1 further comprising:

a space transformer supporting the test probes and having internal routing lines connected to the test probes, wherein the space transformer supports the programmable controller.

16. A probe card assembly of claim 1 further comprising:

resistors, each of the resistors connected in series between a single test system controller channel and a plurality of test probes thus providing resistive isolation of the test probes.

17. A probe card assembly comprising:

isolation buffers, each of the isolation buffers connected in series between a single tester channel and a plurality of test probes thus providing isolation of the test probes.

18. The probe card assembly of claim 2, wherein a test program loaded into the FPGA is provided from a CAD design system used to develop the components on the wafer.

19. The probe card assembly of claim 5, wherein the test program loaded into the memory is provided from a CAD design system used to develop the components on the wafer.

20. A probe card assembly comprising:

a daughter card connected to a base PCB, the base PCB including connectors for connecting to a test system controller and routing lines from the connectors to contacts providing electrical connections to test probes for contacting DUTs of a wafer, the daughter card including discrete components configured for providing additional signals to the DUTs.

21. The probe card assembly of claim 20, wherein the daughter card is connected to the PCB by removable connectors.

22. The probe card assembly of claim 20, wherein the DUTs on the wafer include microprocessors, and wherein the discrete components comprise support circuits for a personal computer motherboard.

23. The probe card assembly of claim 20, wherein the discrete components comprise support components for use in a circuit with the DUTs.

24. A probe card assembly comprising:

power supply isolation devices connected in series with multiple power supply lines that distribute power from a single power supply line of a test system controller to multiple test probes, each test probe configured to contact a DUT power supply input, wherein the power supply isolation devices are configured to minimize current flow on a given one of the power supply lines when a DUT on the given line is determined to be faulty.

25. The probe card assembly of claim 24, wherein the power supply isolation devices comprise one or more of a group consisting of voltage regulators, switches and current limiters.

26. The probe card assembly of claim 24 comprising:

a space transformer supporting the test probes;

at least one daughter card; and

a base PCB electrically interconnected with the space transformer and the at least one daughter card, wherein the power supply isolation devices are provided on at least one of the space transformer, the base PCB, and the at least one daughter card.

27. A probe card assembly comprising:

a DC-DC converter connected between the single power supply line of a test system controller, the power supply line distributing power through line branches to multiple test probes, the DC-DC converter configured to increase current in a signal provided on the power supply line.

28. A probe card assembly comprising a programmable controller configured to perform self testing of components included in the probe card assembly.

29. A probe card assembly comprising a serial interface device configured to connect to a test system controller to receive test signals for distributing to probes of the probe card assembly.

30. The probe card assembly of claim 29, further comprising:

a serial to parallel converter for converting the test signals from serial to parallel and distributing the test signals in parallel to a plurality of test probes.

31. The probe card assembly of claim 30, wherein the serial to parallel converter comprises a Field Programmable Gate Array (FPGA).

32. The probe card assembly of claim 31 comprising:

a space transformer supporting the test probes;

at least one daughter card; and

a base PCB electrically interconnected with the space transformer and the at least one daughter card, wherein the serial to parallel converter is provided on at least one of the space transformer, the base PCB, and the at least one daughter card.

33. A probe card assembly comprising:

a serial digital to analog converter configured to serially receive digital test signals that are to be distributed to test probes of the probe card in analog form, the digital to analog converter configured to convert and provide the test signals to the test probes in analog form.

34. The probe card assembly of claim 33, further comprising:

an analog to digital converter configured to receive an analog signal from a test device and to send a digital representation to a test system controller.

35. The probe card assembly of claim 34 comprising:

a space transformer supporting the test probes;

at least one daughter card; and

a base PCB electrically interconnected with the space transformer and the at least one daughter card, wherein the serial digital to analog converter and the analog to digital converter are each provided on at least one of the space transformer, the base PCB, and the at least one daughter card.